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ABSTRACT

If research into writing, particularly on computers as writing tools, is to assist teachers to improve writing pedagogy, the emphasis should be toward conducting naturalistic and context-sensitive studies. Early studies involved traditional experimental research instruments and looked not at the learning process but at the written product, measuring number of words, errors, number of revisions and quality of product rather than evaluating focus, organization and the ability to use arguments, details and examples effectively. When asking if student writing is instantly transformed via the computer's magic wand the more relevant question is not whether the writing is good or bad, but rather whether students have become more engaged by the writing process and acquired more sophisticated techniques for composing, revising and editing. Better instruments for evaluating and comparing texts must be devised if research results are to be significant. Although the important relationships between context and writing have gone unexplored until fairly recently, they are increasingly recognized as an important element; context-sensitive classroom-based research can provide important information for developing teaching strategies and hopefully shed light on the relationship to the students' progress as learners. (NH)

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Research into Writing and Computers: Viewing the Gestalt

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Despite intense research into writing and, particularly computers as writing tools, over the last few years, studies often fail to assist teachers adequately in understanding critical issues in writing pedagogy, particularly important if we hope to create effective classroom applications. In this paper I explore what I perceive to be the most pressing matters in carrying out and understanding research in applied linguistics in the area of writing in general, while highlighting the problems in computers and writing research in particular. I present arguments in favor of conducting naturalistic and context-sensitive studies in order to foster research approaches aimed at improving writing pedagogy.

Quantitative and Qualitative Research

Janet Emig refers to an individual's way of seeing as his or her "governing gaze," or "preferred way of perceiving" and believes that researchers generally conduct research that reflects their overall governing gaze (65).

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There are essentially two principal governing gazes: qualitative and quantitative. Generally, studies seeking holistic understandings fall within the parameters of the qualitative paradigm, whereas those seeking more particle views fall within the parameters of the quantitative paradigm.

Some researchers investigating writing pedagogy have recognized the difficulties in carrying out experimental studies over the years and the initial emphasis on traditional research has been shifting in favor of descriptive methodologies. Inspite of this, issues concerning the appropriateness of the researcher's methodological stance remain a controversial matter.

The Questions Dictate the Method

Research starts with questions. The particular questions that are asked, along with their underlying assumptions, dictate the type of research approach the investigator selects. The question at the foundation of many of the early studies in computers and writing, either implicity or explicitly, appears to be whether or not computers, particularly in the form of word processing, make writing better.

The Early Questions

There are good reasons why our existing research has not yet been able to adequately address this question, much less answer it. The question is not a simple one; understanding what makes "better writing" is a complex matter.

Do we want to know if the student's writing was instantly transformed via the computer's magic wand into something "better" than it used to be? This assumes a relatively straightforward view of things. The assumption is that the answer will be either "yes" or "no." The computer's effects on writers and writing is expected to be either "good" or "bad."

Or do we want to understand a more complex issue? Has the student, after extensive instruction in writing with a computer, become more engaged by the writing process, acquired more sophisticated techniques for composing, revising and editing, and has she begun to show signs of improvement as a writer? If we ask the latter kinds of questions, then we would also want to get a sense of the context in order to learn under what conditions such change took place. We would especially want to observe the obstacles that arose and how they were resolved.

Many of the early writing studies involving computers asked the straightforward questions and looked for the magic

wand answers. Researchers turned to traditional experimental research instruments and, for the most part, looked not at the learning process but at the written products. These early experimental studies often reflect serious problems, especially in their underlying assumptions. These studies frequently introduced subjects in a cursory fashion to a computer and a word-processing program and within a short period of time--sometimes as little as an hour--asked the subjects to create original compositions which were then evaluated.

Unknown Variables

Gail E. Hawisher in a comprehensive review of research into writing and word processing conducted since 1982, examines twenty-four studies of computers and writing in terms of various features. She notes that many of the studies look at texts in terms of the number of errors, the number of words, the frequency and types of revision, and the quality of the written products.

Yet is improvement in writing primarily a matter of the absence of surface errors? Can we really assume that writing quality is related to length? Isn't shorter just as likely to be better, since it is difficult to write short pieces well?

Relying on counts of revision to suggest writing progress is also highly problematic. Even though

researchers may use the same instrument, problems may still exist with the findings. Hawisher points out, for example, that although five studies used Faigley and Witte's revision taxonomy (400-414), these same studies did not report their findings according to Faigley and Witte's terms, making their conclusions incomparable (Hawisher 18). Should we assume that quantification of the actual kinds of revisions done on two separate assignments, even when done systematically and according to some hierarchy of priorities, represents an accurate barometer of writing growth?

The confidence our research exhibits concerning the level of linguistic sophistication available for analyzing written texts and for assessing growth in writers appears unearned. Our ability to evaluate texts in many respects is highly limited, particularly in terms of distinguishing the superiority of one text over another in any detailed way. Our gross measures do not yet permit a sensitive and complete picture of changes accurately depicting writing growth. There is sparse information, theoretical or empirical, suggesting the degree of importance among the various linguistic features in the development of writing skills and abilities or the complex interrelationships among these features. There is little information available to suggest the patterns of change that presumably take place in

the writer's ability to manipulate linguistic features over time, culminating in writing maturity.

Lacking information concerning what the factors are, much less which ones to isolate as the most significant to observe, researchers tend to look at the most obvious, surface aspects of written texts, such as countable errors in spelling, mechanics, or grammar as though they accurately represented developmental changes in the writer.

When we focus on error or the quantity of revisions rather than the presence of quality, we contribute to the creation of a particle view that greatly distorts the multiplicty of factors that go into good writing. Is E. B. White's writing memorable because of correct punctuation, lengthiness, or even the type and number of revisions he made while drafting? These factors may have played some part, but we know there is much more to producing excellent prose than that.

Intuitive Knowledge

We need to devise better instruments for evaluating and comparing texts before our research results involving textual comparisons can have much significance. Furthermore, growth in the ability to write, like progress in other linguistic areas such as speech production, appears to happen for most individuals quite slowly. Our current

research designs do not usually take these time factors adequately into consideration.

While we have established no appropriate scale for judging written products, the measures that we intuitively know to be more significant are usually ignored in our research. Shouldn't we include the writer's control over global discourse strategies involving content, focus, organization, and audience; the writer's ability to use arguments, details, and examples effectively; the writer's level of syntactic fluency; and the writer's appropriate use of cohesive devices, among other things? If the writing moves us, shouldn't that count for something, too?

The issue of evaluating writers, their texts, and their growth in writing ability is very complex. As Lillian Bridwell and Richard Beach state:

> If we cannot accurately describe the mature writer or the mature text, we have tremendous difficulty describing their characteristics as they emerge or evolve. (12)

A Lack of Context in Writing Research

Traditional research approaches are not designed to get a grasp of the larger panorama that observing writers within particular contexts allows. Naturally, the researcher assumes a larger context, but these assumptions remain implicit, rather than explicit, in the research design. To date, our theories and existing research do not permit us to know which variables are the most important ones.

Experimental results, therefore, instead of contributing pieces culminating in an overall meaningful picture, often create more distortion than clarification. Research that does not include context tells us little about teaching writing under particular conditions in the classsroom.

A Failure to Capture Classroom Changes

We do not get information concerning which factors change within an electronic classroom or which ones remain the same. Without a framework and data gathering techniques intended to be sensitive to the conditions under which teaching writing with computers takes place, it becomes difficult, perhaps impossible, for educators to assess the importance of research findings and to see how such findings might be applied to their own teaching situations.

Context Permits a Global View

Many theoretical and empirical researchers in the field of writing are calling for studies that include context. Bridwell and Beach believe that:

> What is needed to guide future research is a model for writing production that represents a more global view of the factors affecting writers. A primary assumption of this model should be that we cannot isolate writing from the social, political, and psychological context in which it occurs. (6)

Deborah Brandt is another researcher who strongly advocates integrating context in studies of writing. She

points out the importance of context in understanding the significance of what writers do when they write and why ("Toward an Understanding" 140). She refers to the unexplored context in research as, "the dark stage upon which a writer's plans and thoughts and language are played out" ("Toward an Understanding" 140).

An Overview of Context in Linguistics

One reason why context does not play a more important role in writing research is because many linguists have viewed language, both writing and speech, in isolation from textual contexts, as well as in isolation from larger contextual concerns.

The anthropologist, Branislaw Malinowski made the first connection between context and language back in 1923, coining the phrase, "context of situation."

> In each case, therefore utterance and situation are bound up inextricably with each other and the context of situation is indispensable for the understanding of the words. Exactly as in the reality of spoken or written languages, a word without linguistic context is a mere figment and stands for nothing by itself, so in the reality of a spoken living tongue, the utterance has no meaning except in the context of situation. (307)

With the exception of some schools of linguistics such as the Firthian School and The Prague Linguistic Circle, the important relationships between context and writing have gone unexplored until fairly recently. However, the important role of context in the production and

intelligibility of written communication is increasingly recognized as an important element in the literacy/language research of many linguists and sociolinguists, who strive to enlarge the particle focus of language to include language and writing in context. The statement on language by the sociolinguist, Dell Hymes, "There are rules of use without which the rules of grammar would be useless," (278) represents a point of view that is gradually making an impact on writing research.

Shifting Our "Governing Gaze"

Context-sensitive classroom-based research can provide important information on the teacher's strategies, hopefully shedding light on their relationship to the students' progress as learners. To do this we need to confront the question of the appropriateness of our research methodology. We need to learn to conduct and evaluate research, not by the standards set by traditional experimental approaches, but by standards within the qualitative tradition. This represents difficulties since most researchers in areas of applied linguistics and most teachers, even when they are not rigorously trained in experimental research methodology, are conversant and comfortable with its "governing gaze." The premises at the foundation of quantitative research are highly ingrained; they create an obstacle to understanding

the distinctively different perspective of qualitative research.

But we must if we want more pedagogically motivated, context-dependent research that reflects what is happening in writing classrooms, particularly when the computer becomes the writing tool. If we want to understand the changing classroom dynamics and their effects on teaching/learning processes, especially over extended periods of time, if we want to get a clearer view of the gestalt, then we need to conduct more research using qualitative methodologies.

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